

# Work Order ID 55425

January 18, 2010 10:50:03 AM



Page 1

Item ID: D3997-39

Accept



Setup Start



Revision ID:

Stop



Item Name: Placard

Start Date: 1/18/10

Start Qty: 10.00



Cust Item ID:

Required Date: 1/25/10

Req'd Qty: 10.00



Customer:

Reference:

Approvals:

Process Plan:

*PL*

Date: 10-1-18

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3997

A

100

0.00



Purchasing

Memo

0.00

Purchasing

Issue P/O: 11154  
Manufacture as per Dwg D3997  
Possible Supplier: Studio Lettrage  
Material release note required

*PL 10-1-18*  
*(10)*

110

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

*PL 10-1-18*  
*(10)*

120

QC6- Inspect dimensions to drawing

0.00



QC

Memo

0.00

Quality Control

*=> Schubert*

*(410)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 55425

January 18, 2010 10:50:03 AM



Page 2

Item ID: D3997-39

Accept



Setup Start



Revision ID:

Stop



Item Name: Placard

Start Date: 1/18/10 Start Qty: 10.00



Cust Item ID:

Required Date: 1/25/10 Req'd Qty: 10.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

Identify as per dwg & Stock Location: 108

0.00



Packaging

Memo

0.00

Packaging

10-1-21

sl (108)

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/01/22  
MF 10-1-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 18, 2010 10:50:07 AM

Page 1

Work Order ID: 55425



Parent Item: D3997-39



Parent Item Name: Placard

Start Date: 1/18/10

Required Date: 1/25/10

Comments: IPP rev A 10.01.13 new issue Prelim EC verified by:DD

Start Qty: 10.00

Required Qty: 10.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3997-39P		Purchased	No				Each	0.0000	10.0000			
Placard												

mf 10-1022

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

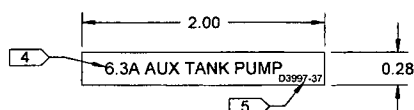
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

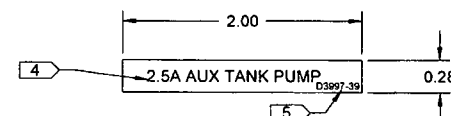
**NOTE:** Date & initial all entries

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D3997-37	JCA-M47-P21
D3997-39	JCA-M47-P22
D3997-41	JCA-M47-P23
D3997-43	JCA-M47-P24

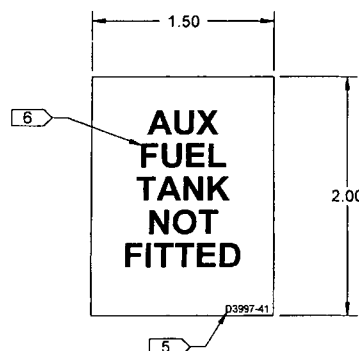
PART NUMBER	INSTALLATION INSTRUCTIONS
D3997-37	ADJACENT TO CB INSTALL
D3997-39	ADJACENT TO CB INSTALL
D3997-41	ON TANK ADJACENT TO FUEL FILLER
D3997-43	ON TANK EARTH POINT



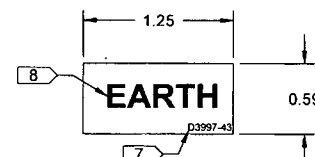
**D3997-37 PLACARD**



**D3997-39 PLACARD**



**D3997-41 PLACARD**



**D3997-43 PLACARD**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 55425  
PL 10-1-18

- NOTES:
- 1) MATERIAL: 3M 7 MIL MASKING FILM #8522CP OR AVERY IPM #2031
  - 2) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 3) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 4) 10 PT FONT, WHITE TEXT ON BLACK BACKGROUND
  - 5) 6 PT FONT, WHITE TEXT ON BLACK BACKGROUND
  - 6) 20 PT BOLD FONT, WHITE TEXT ON BLACK BACKGROUND
  - 7) 6 PT FONT, BLACK TEXT ON WHITE BACKGROUND
  - 8) 20 PT BOLD FONT, BLACK TEXT ON WHITE BACKGROUND

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3997	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		PLACARD	NTS
DATE	09.10.05	COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





210 MAIN W.,  
HAWKESBURY, ONT. K6A 2H6  
Tel.: 613 632-2001  
Fax: 613 632-9491  
www.studiolettrage.com

**INVOICE / FACTURE**

VENDU À:  
SOLD TO:

LIVRÉ À:  
SHIPPED TO:

No.: 13302  
DATE: 01/20/2010  
PAGE 1 of 1  
Re: Quote No. 8181

Dart Aerospace Ltd  
1270 Aberdeen  
Hawkesbury, Ontario  
K6A 1K7

Dart Aerospace Ltd  
Hawkesbury, Ontario

ITEM ARTICLE	QTY QYE	UNIT UNITÉ	DESCRIPTION	GST TPS	PST TVP	UNIT PRICE PRIX UNITÉ	AMOUNT MONTANT
	22		set up for labels	E		30.00	660.00
	10		D3997 11P 1				
	10		D3997 13P 2				
	10		D3997 15P 3				
	10		D3997 17P 4				
	10		D3997 19P 5				
	10		D3997 21P 6				
	10		D3997 23P 7				
	10		D3997 25P 8				
	10		D3997 27P 9				
	10		D3997 29P 10				
	10		D3997 31P 11				
	10		D3997 33P 12				
	10		D3997 35P 13				
	10		D3997 37P 14				
	10		D3997 41P 15				
	10		D3997 43P 16				
	10		D3997 39P 17				
	10		D3997 1P 18				
	10		D3997 3P 19				
	10		D3997 5P 20				
	10		D3997-9P 21				
	1		total for printing	G		275.00	275.00
			E - GST @ 5%				
			G - GST @ 5%; PST @ 8%				
			GST				46.75
			PST Exempt: #6122-5207				
		10	D3997-27 22				
			02/18/11				
Studio de Lettrage GST: #869034678RP001						TOTAL	981.75
PO: 11156							
Sold By:							

Merci! Thank You!



## PRODUCT DATA BULLETIN

Product Data Bulletin: A5-O

**Avery Graphics™ A5 Opaque**  
5-year **INTERMEDIATE** calendered vinyl film  
Dated: 10/3/02

### Description:

Avery Graphics™ A5 Opaque intermediate films are flexible, high-gloss calendered vinyls designed for use on computer sign cutting equipment. This construction provides excellent cutting, weeding and transferring characteristics for signage applications.

Application information can be found in the Avery Graphics Application Guide.

For surface preparation, converting and printing, and application and removal instructions, please refer to the Avery Graphics Instructional Bulletin.

### Construction:

- Face Film: 3.2 mils opaque medium gloss intermediate calendered vinyl film
- Adhesive: 1.0 mil clear acrylic permanent solvent pressure-sensitive adhesive
- Liner: 78# bleached white kraft

### Physical Properties:

The following information on physical and chemical characteristics is based upon tests believed to be reliable. The values are intended only as a source of information. They are given without guarantee and do not constitute a warranty. The purchaser should independently determine, prior to use, the suitability of this material for his/her specific purpose. (Data represents averages and is not intended for use as a specification).

- Outdoor durability: 5 years when properly processed and applied (vertical exposure, unprinted film)\*\*
- Application surface contours: Flat and simple curves
- Minimum surface and air application temperature: +50° F (10° C)
- Service Temperature Range: -40° F to +180° F (-40° C to 82° C) (Reasonable range of temperatures which would be expected under normal environmental time and temperature conditions)
- Typical Chemical Resistance: Resistant to most mild acids, alkalis and salt solutions. See instructional bulletin for recommendations on cleaning.
- Shelf Life: One year when stored at the following temperatures and humidity conditions: 68°-77° F (20° - 25° C) and 50±5% R. H.
- Typical Adhesion Values: **180° Peels**

Substrate	24 hrs	1 week
Stainless Steel	4.4 lbs/in	5.1 lbs/in
Glass	4.7 lbs/in	5.3 lbs/in

NOTE: Tested per ASTM D 1000. Always pre-test your specific substrate prior to actual application.

- Reflectivity: NA

- Typical Gloss\*: 70 at 60°

Avery Graphics™ A5 Opaque page 1 of 2  
AnswerLine: 800-443-9380  
Signage.averygraphics.com



# Scotchcal™

## Opaque Imaging Media 8522

### Description

This media is specially formulated to dry quickly after printing. Production of outdoor weatherable and long-term indoor durable graphics is now easier than ever. Its changeable adhesive allows easy removal for up to one year.

### Advantages

- Optimized for use with selected Epson Stylus Pro printers and Epson Archival inks.
- Optimized for use with selected HP DesignJet Printers and HP DesignJet Ink System UV or HP83UV Color Ink System
- For making opaque, laminated graphics that are outdoor weatherable and long-term indoor durable
- Media:
  - For opaque (reflective) graphics
  - Changeable, easy to remove from warranted substrates up to 1 year later
  - Dries quickly after printing so the overlamine can be applied almost immediately
  - Low slippage paper liner for superior tiling
- Overlaminates:
  - Provide additional UV (ultraviolet) and physical protection for making weatherable finished graphics
  - Available in luster and matte gloss
  - Adhesive allows for heat-assisted or cold-temperature lamination

### Applications and Uses

3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 is intended only for ink jet printing and for use with the listed Compatible Products and Equipment and the following applications. Any other application is NOT warranted by 3M or covered by the worldwide 3M™ MCS™ Warranty unless 3M gives its prior written approval for the application.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
  - Graphics for vans, personal vehicles, trucks and buses
  - Novelty posters
  - Retail and point-of-purchase displays
  - Information graphics such as maps and directories
  - Entertainment promotions in museums, zoos, parks, theatres, sports venues
  - Education and presentation graphics

- Legal and courtroom exhibits

- For flat or simple curved surfaces, with or without rivets, used in vertical ( $\pm 10^\circ$ ) applications

### Limitations of End Uses

The following uses and applications are specifically NOT warranted.

- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wall-board
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.

Note: Standard ink jet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this bulletin. Staying in the middle of these ranges always provides optimum performance.

## Compatible Products and Equipment

### Thermal Ink Jet Printing Systems

- Epson Stylus Pro 9500, Stylus Pro 10000 printer
  - Epson Archival Inks
- Epson Stylus Pro 10600 printer
  - Epson Archival Inks
- HP DesignJet Printers 2000 and 3000 series
  - HP DesignJet Ink System UV (pigment-based ink)
- HP DesignJet Printers 5000 series
  - HP83UV Color Ink System

### Overlaminates (required)

- 3M™ Luster Overlamine 8519 (semi-gloss)
- 3M™ Matte Overlamine 8520

Note: For the full product names of the 3M products listed on this page, please see page 1.

## Warranted Substrates

Media 8522 is warranted for use on the following rigid substrates.

Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.

- Alodine (anodized aluminum)
- Automotive panels (automotive painted steel)
- Fruehauf (painted aluminum)
- FRP (fiberglass reinforced plywood)
- Glass
- Imron® (polyurethane-painted metal panel)
- Acrylic
- Sintra™ board

## Test and Approve Non-warranted Substrates Before Use

Media 8522 is not warranted for any substrate other than those listed above. If you want to use it for other substrates, 3M recommends that you test and approve the media for both adhesion and removal characteristics.

## Characteristics

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slippage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness (media and adhesive)	7.5 to 8 mil (nominal)
Application substrates	See Warranted Substrates, above
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical ( $\pm 10^\circ$ ) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Roll sizes	36" x 45 feet (914 mm x 13.5 m) 54" x 45 feet (1372 mm x 13.5 m)

## How to Become a 3M Ink Jet Registered Fabricator

Only 3M Thermal Ink Jet Registered Fabricators are eligible to offer 3M MCS warranted graphics. In order to become certified, a fabricator must complete the requirements as specified in the 3M Ink Jet Graphics Registered Fabricator Reference Manual located on the 3M website at [www.scotchprint.com](http://www.scotchprint.com)

## Effective Performance Life

To obtain the warranty given below, the graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3. Also see the section, Removability.

## Warranted Durability

Media 8522 with Overlaminates 8519 or 8520	Epson Printers		HP Printers	
	Outdoor	Indoor	Outdoor	Indoor
Applied to Warranted Substrates	2 years	5 years	3 years	5 years

## Removability

Imaging media 8522 is removable from warranted substrates for 1 year without the aid of chemical strippers or accessories. Refer to Instruction Bulletin 4.23 for additional information.

## Fabrication

Graphics must be made according to 3M's recommendations which are detailed in the Warranty and Limited Remedies on page 3.

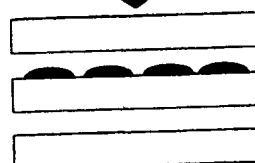
See Instruction Bulletin 4.23 for detailed fabrication, printing and mounting information.

## Graphic Construction Options

### Opaque (Reflective) Graphics

Opaque graphics made with imaging media 8522 require an overlaminate and an opaque substrate.

Viewer/Light Source



Overlaminates 8519, 8520  
Adhesive on bottom

Imaging Media 8522  
Image on top; adhesive on bottom


Opaque Substrate

Note: For the full product names of the 3M products listed on this page, please see page 1.

## Shelf Life and Storage

- 3M™ Scotchcal™ Changeable Opaque Imaging Media 8522 has a shelf life of one year.
- Storage conditions (new and partially used rolls). For optimum performance, use the middle of these ranges:
  - Original packaging, including plastic wrap
  - Relative humidity of 20% to 80%
  - Temperature of 33° to 104°F (0° to 40°C)
  - Away from direct sunlight
- Do not stack unprotected rolls or lay sharp or heavy objects on them.

## Health and Safety

 **Caution**

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

To obtain MSDS sheets for 3M products:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at <http://www.3M.com/msds>.
- By mail, or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

## Warranty and Limited Remedies

### 3M™ MCS™ Warranty for Graphics Produced on HP DesignJet Printers and Epson Stylus Pro Printers

*The following is made in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose:* We warrant graphics produced by a 3M Ink Jet Registered Fabricator made with imaging media 8522, printed on an approved HP thermal ink jet printer according to HP's recommendations or Epson Stylus Pro printer according to Epson's recommendations, overlaminated with 8519 or 8520, and applied to a Warranted Substrate according to 3M's recommendations. These

### 3M

**Commercial Graphics Division**  
3M Center, Building 220-6W-06  
PO Box 33220  
St. Paul, MN 55133-3220 USA  
General Info. 1-800-374-6772  
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Fax-on-Demand 1-800-364-0768 U.S./Canada or 1-651-732-6506 International  
Fax-on-Demand document: 4506  
[www.scotchprint.com](http://www.scotchprint.com)

### 3M Canada

P.O. Box 5757  
London, Ontario  
Canada N6A 4T1  
1-800-265-1840  
Fax 519-452-6245

graphics are covered against failure caused by ultraviolet light, temperature extremes, pollution, and other elements.

If a graphic fails to perform in accordance with 3M product specifications within this time frame, 3M will replace the materials at no charge. **These remedies are exclusive. In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor charges.**

## 3M Related Literature

Listed below is related 3M technical literature that may be of interest. You may view and print these Bulletins from our Web site at [www.scotchprint.com](http://www.scotchprint.com), or order them via our Fax-on-Demand (FOD) system. Call one of these phone numbers to order the desired bulletins, and specify the FOD document number provided in the chart.

United States or Canada: 1-800-364-0768  
International: 1-651-732-6506

Subject	Bulletin No.	FOD No.
<b>Product Bulletins</b>		
3M™ Scotchcal™ Overlamine 8519 and 8520	8519/8520	4524
<b>Instruction Bulletins</b>		
Making thermal ink jet graphics	4.23	6523
Application, substrate selection, preparation and substrate-specific application techniques	5.1	7001
<b>Warranties</b>		
Worldwide 3M™ MCS™ Warranty Packet (includes all Commercial Graphics MCS Warranties)		9503
Worldwide 3M™ MCS™ Warranty Overview-Folder		9504

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Sintra is a trademark of Swiss Aluminum Ltd.

Intron is a registered trademark of DuPont in the United States

### Bulletin Change Summary

The Epson Stylus Pro Printers 9500, 10000 10600, and Epson Archival Inks have been added to this bulletin. Additional changes resulting from this addition are marked with black bars in the margin.

### 3M México, S.A. de C.V.

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52-55-52-70-04-00  
Fax 52-55-52-70-22-77

### 3M Puerto Rico, Inc.

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Product Bulletin 8522 - 3